

Alternative Onsite Sewage Disposal Systems

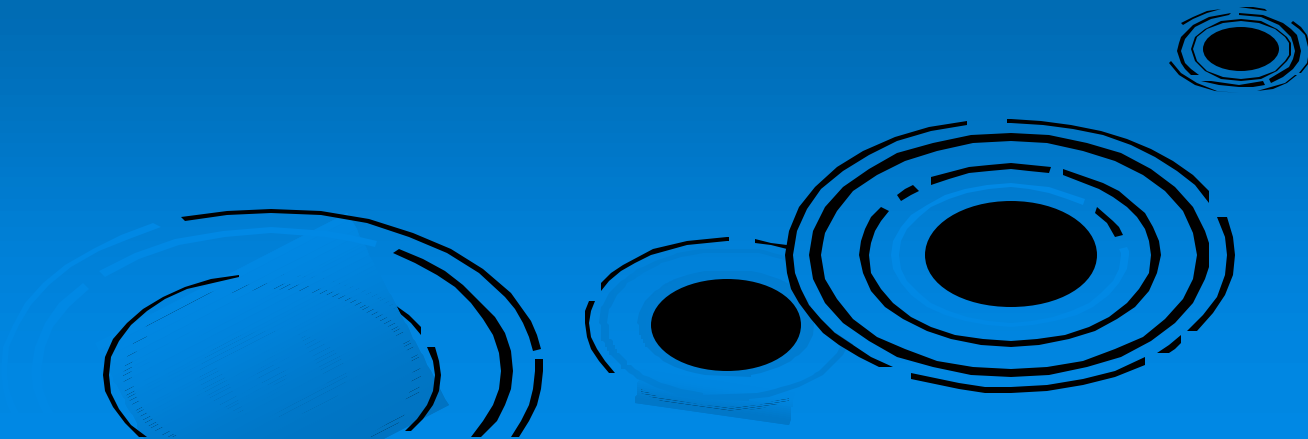
Jim Bowles

Office of Environmental Health
Services



Functions of an Onsite Sewage System

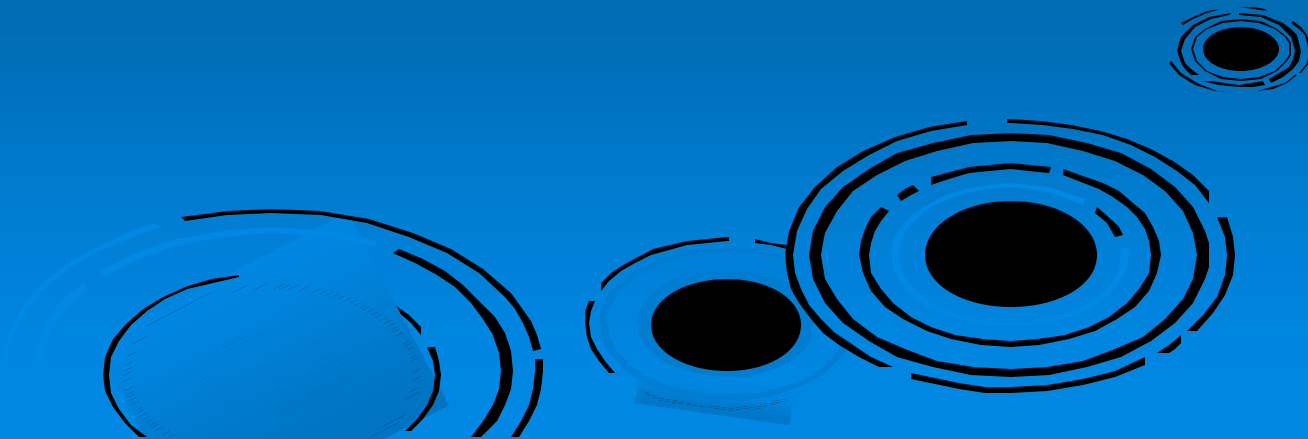
- Treat wastewater from a home or other building
- Disperse the treated effluent to the environment



Conventional Onsite System

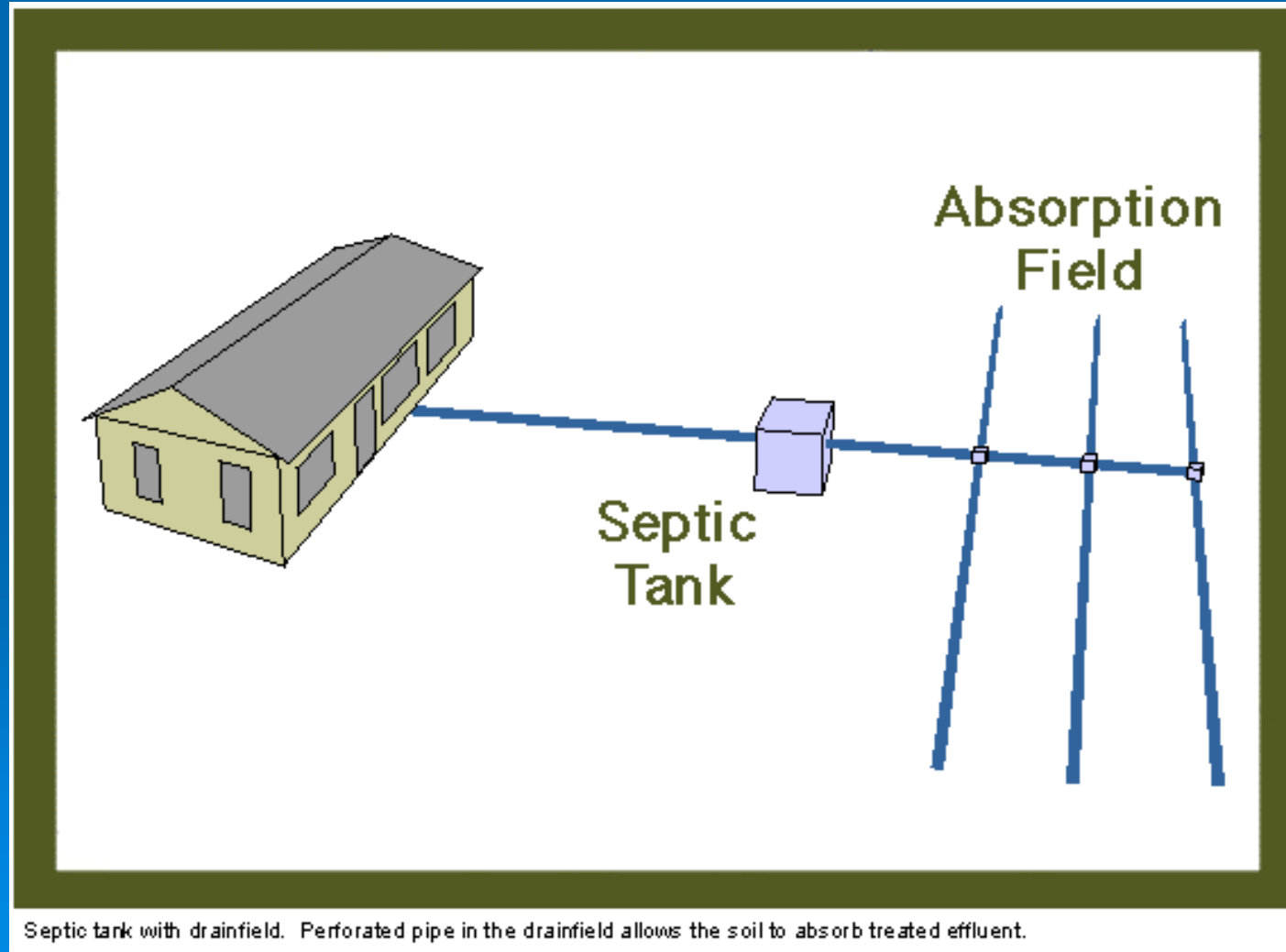
- “A wastewater treatment system consisting of a septic tank and subsurface wastewater infiltration system.”

(US EPA)



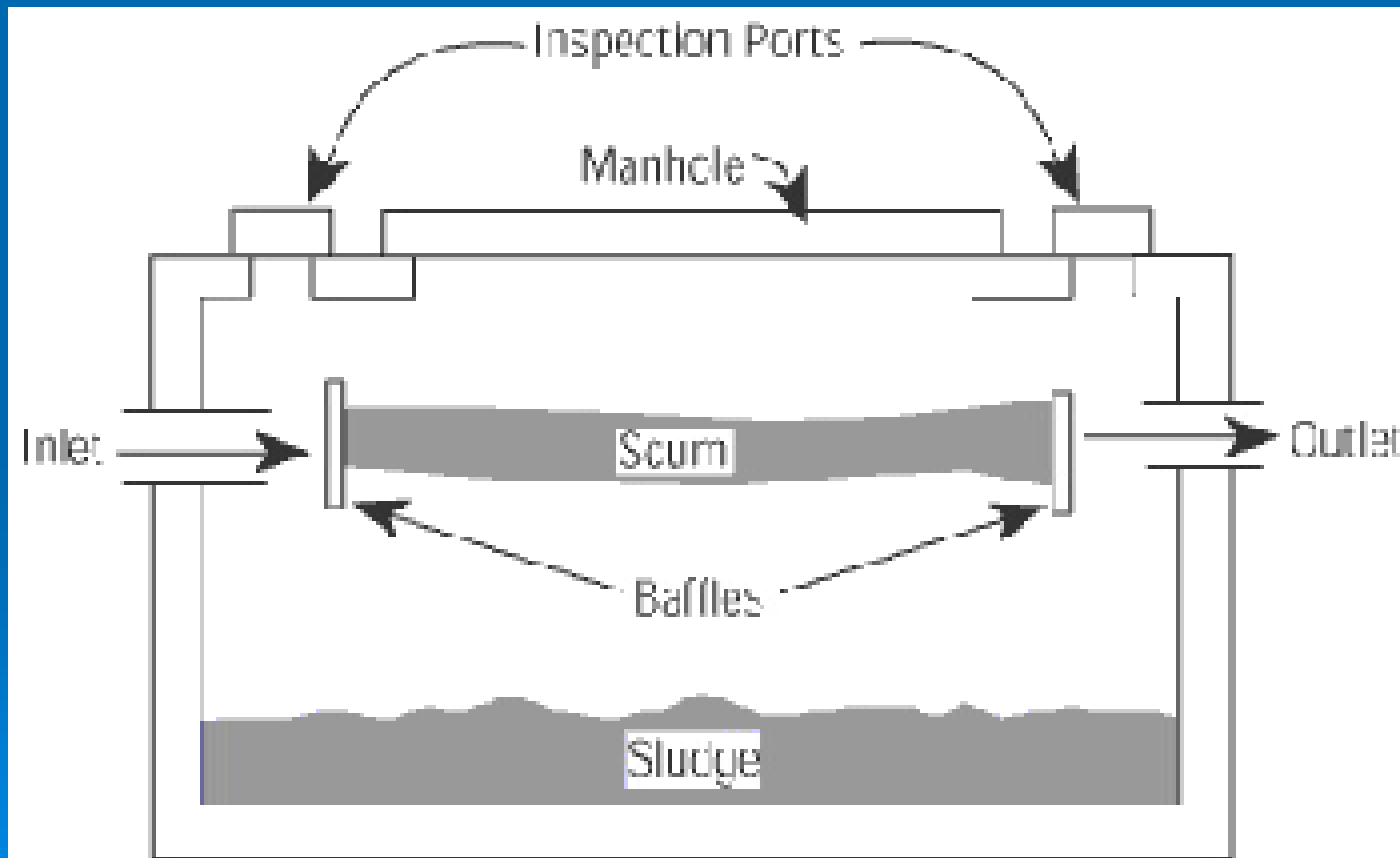
Conventional System (Septic Tank & Drainfield)

Source: Georgia Dept. of Community Affairs



Septic Tank Maintenance

Source: Ohio State University



Checking Septic Contents

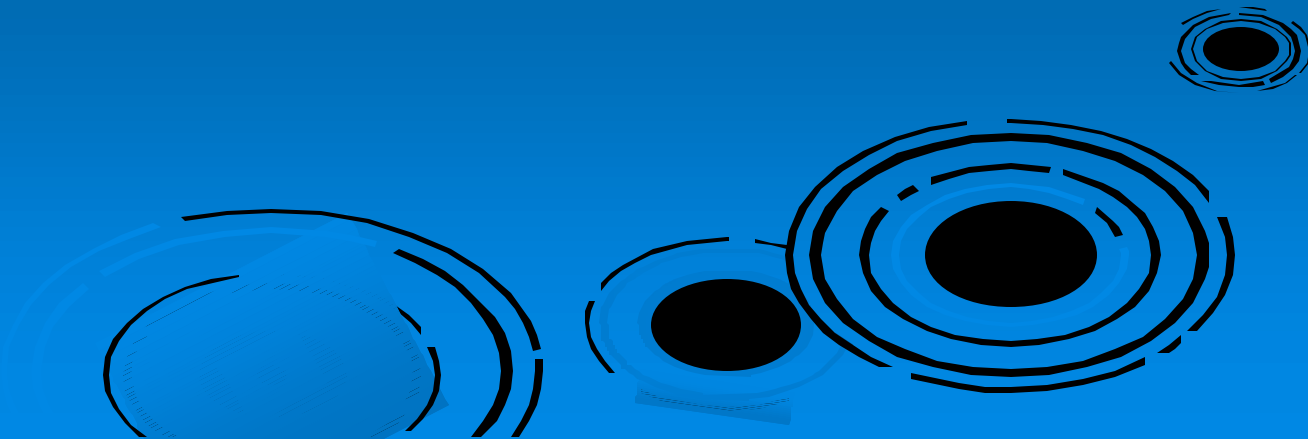
Source: Virginia Dept of Health



Alternative Onsite System

“An onsite treatment system that includes components different from those used in a conventional septic tank and drain field system.”

(US EPA)



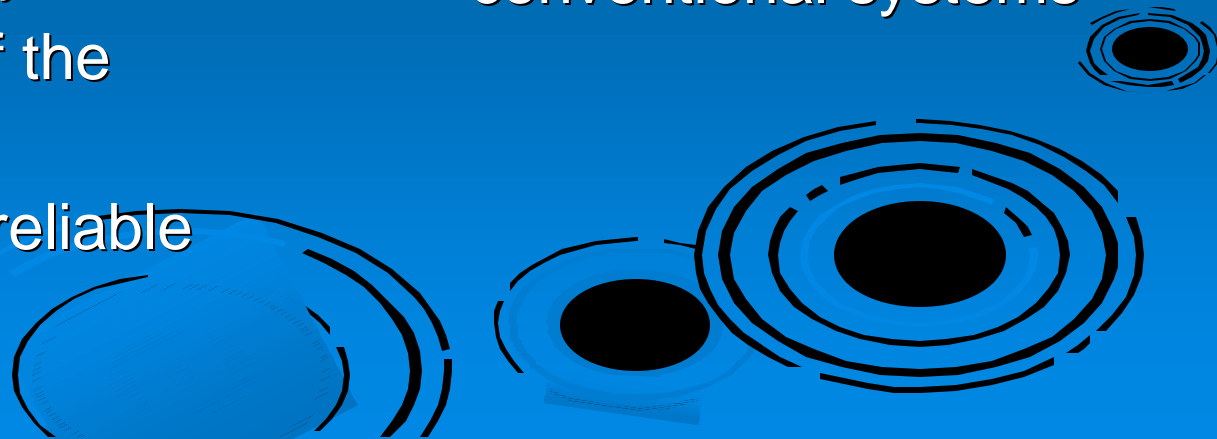
Why use alternative systems?

➤ Advantages

- Provide a higher quality effluent
- Can *sometimes* be used where site conditions preclude the use of a conventional system
- Increase life of the dispersal field
- Provide more reliable dispersal

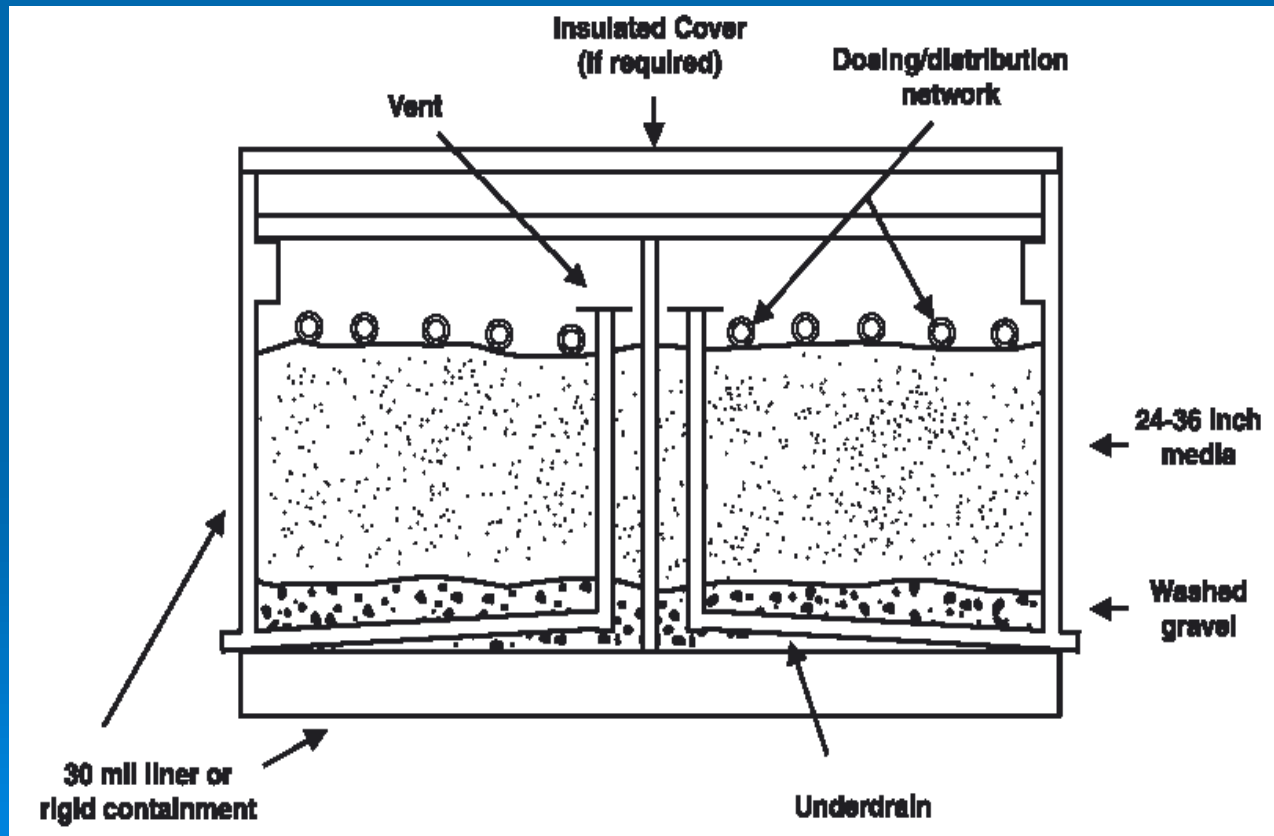
➤ Disadvantages

- Higher initial cost
- Require installers to be trained
- Often require more maintenance and monitoring than conventional systems



Single-pass Sandfilter

Source: EPA



Other Filters

Source: Virginia Dept. of Health



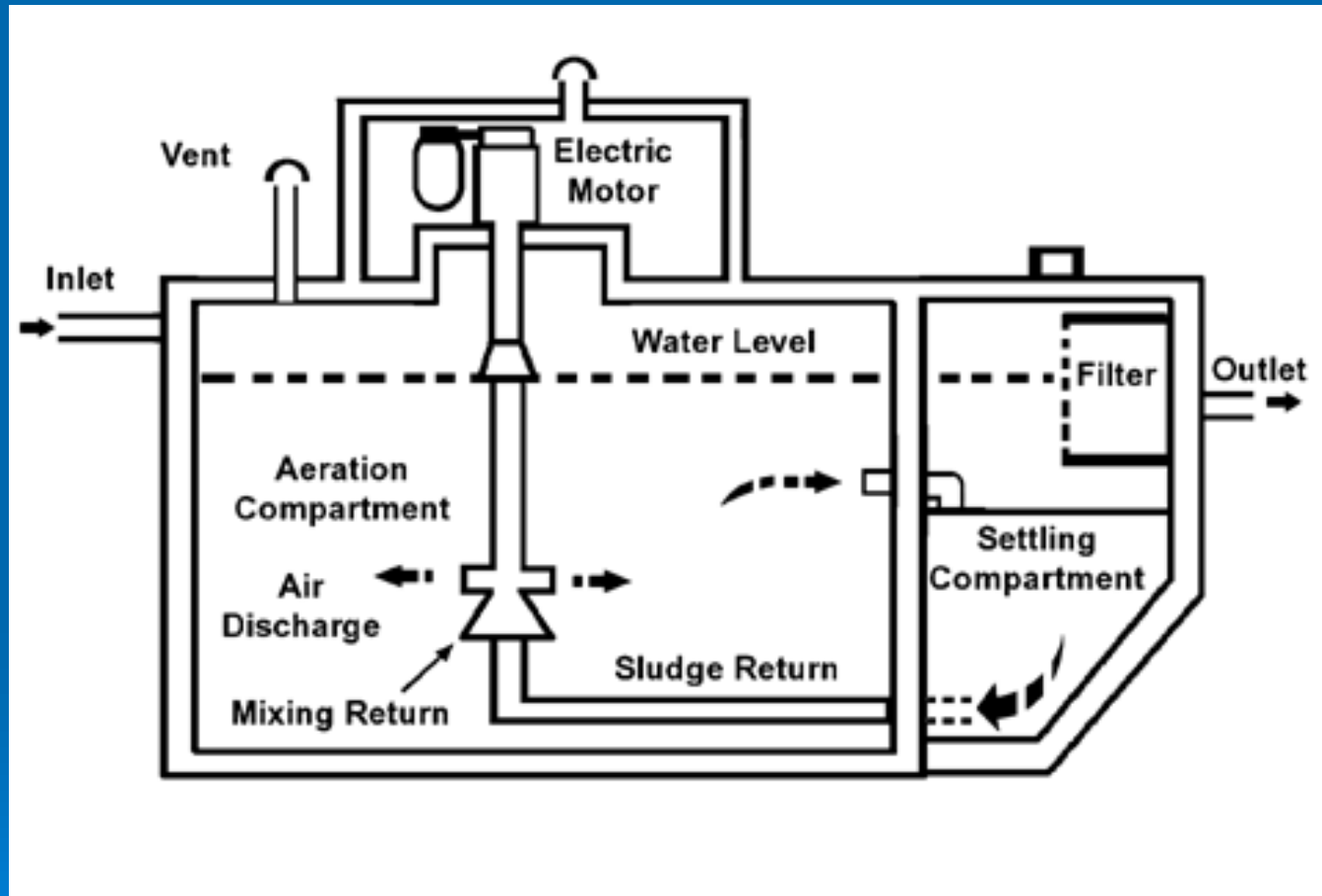
Recirculating Sand Filter



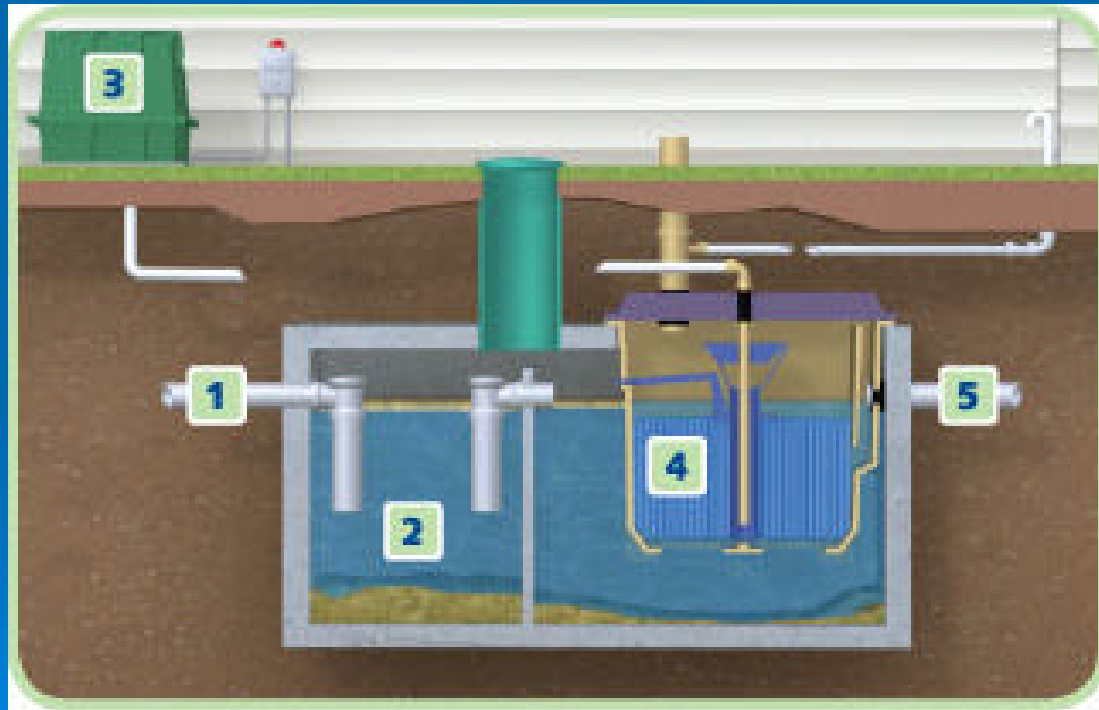
Peat Filter

Aerobic Treatment Units

Source: Virginia Cooperative Extension Service



A Hybrid System



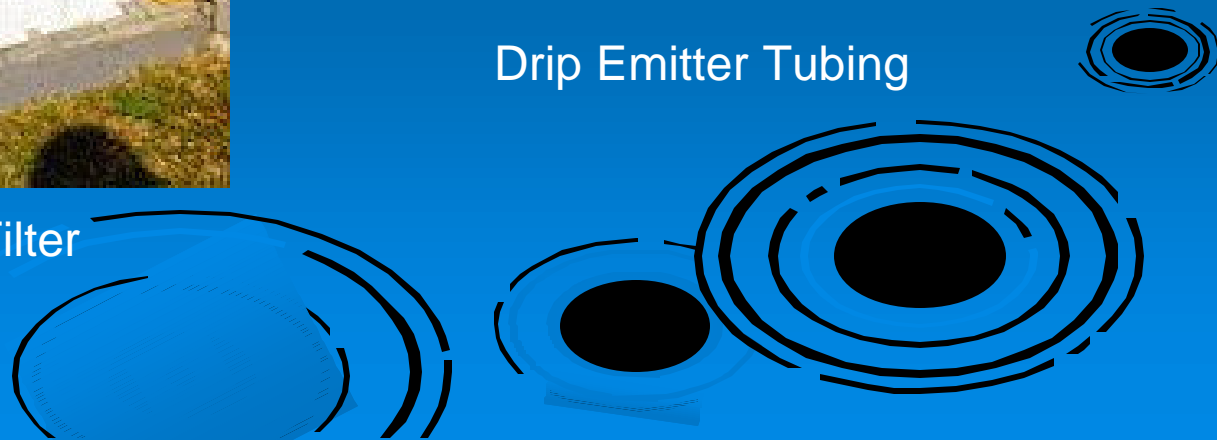
Drip Dispersal



Control Panel & Disk Filter



Drip Emitter Tubing



Drip Dispersal Field

Source: Ohio EPA



Discharge Systems

Source: Virginia Dept. of Health



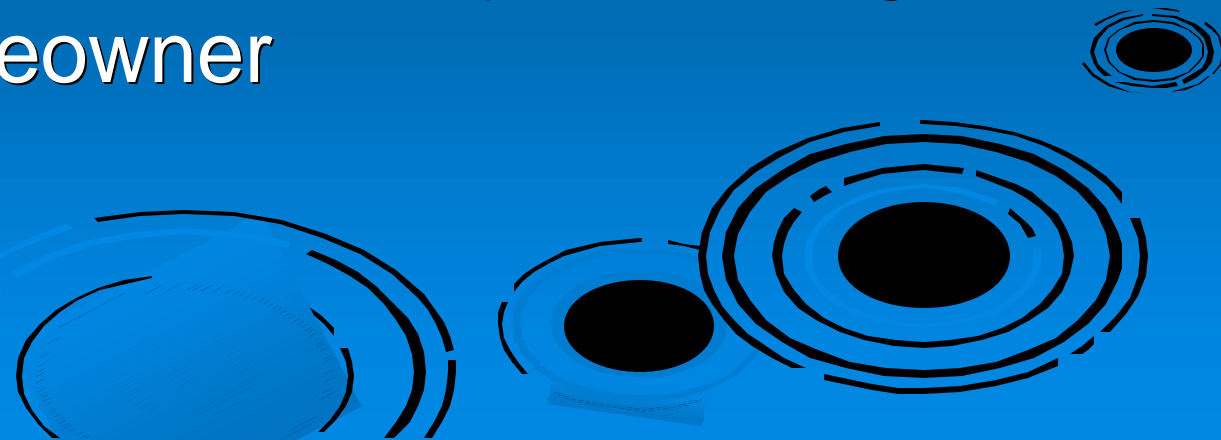
Dry Ditch Discharge



Spray Irrigation

All Systems Require Maintenance

- Frequency of monitoring and maintenance depends on complexity of system and risk to public health
- Some alternative systems require only infrequent monitoring or maintenance
- “Management” of onsite systems begins with the homeowner



VDH Strategic Plan

Improve the performance of decentralized wastewater treatment systems by promoting the concept of continuous management and facilitating upgraded professional standards of practice.

- Create inventory of all onsite systems
- Consider regulations requiring additional system management after installation

